Physician Contracting in Suwalki

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Preface

At the request of United States Agency for International Development (USAID), the Harvard School of Public Health, Harvard University, in the U.S. and the School of Public Health, Jagiellonian University, in Poland have initiated a project to assist regional and local government officials in Poland strengthen their efforts to provide cost-effective and responsive health services. The project includes 6 components:

1. *Physician and dentist payment/contracting system*
   This component will enable local and regional governments to cost-effectively contract with physicians and dentists for services provided to consumers in their jurisdiction.

2. *Health care institutions contracting systems*
   The second component is linked to the first as it will enable local and regional governments to cost-effectively contract with hospitals and gmina (municipality) fund-holding arrangements for services provided to consumers in their jurisdiction.

3. *Cost analysis*
   Closely related to the first two, this component's activities support local and regional governments' capacity to determine the costs of health services provided to consumers in their jurisdiction and to use the results in the contracting process.

4. *Planning and control*
   The fourth component will enable local and regional governments to effectively plan and control health services provided to citizens in their jurisdiction.

5. *Quality monitoring*
   This component will enable local and regional governments to effectively monitor the quality of health services provided in their jurisdiction.

6. *Policy dialogue/local government*
   The final component will support activities to encourage local governments to advocate effectively for desired changes in national health policy.

The present study on physicians' and dentists' contracting in Suwalki falls under the first component. The primary goals of the study are to: (i) describe the process of contracting in Suwalki; (ii) describe the different types of contracts and payment systems; and (iii) analyze the impact of contracts on overall health budget of Suwalki.

1. Introduction

Free and general access to health care services, guaranteed by the Constitution in 1952, has long been considered the foundation of the Polish health care system. The national budget of the government has historically been the main source of health financing in Poland, though household surveys recently carried out indicate that private out-of-pocket expenditure is also substantial.

Like other socialist countries in Central and Eastern Europe, Poland also developed a publicly-funded health system after World War II. Financed by government revenues, the health care production and delivery system offers universal access and broad coverage. The national budget, either directly through the Ministry of Health, or through other ministries like Defense, Interior, Transportation and Industry, supports a huge network of state-financed hospitals and clinics. This network of health services includes more than five hundred integrated health and social service units, called Zespol Opieki Zdrowotnej (zoz), which serve the 49 voivodships. Out-patient and primary health services are generally provided in regional clinics, county clinics, local ambulatory clinics, clinic or doctor's offices at the places of employment. Secondary services are provided mainly in voivodship hospitals, while specialized services are provided in university hospitals, medical academies, and science and research institutes.

There is no denying that the Polish health care system has generally succeeded in providing universal access. It also contributed to rapid declines in mortality and morbidity due to infectious diseases, as a result of which life expectancy rose to almost 72 and infant mortality fell to 13.3 per 1,000 live births. However, the system suffers from a number of weaknesses, such as lack of incentives in health care production and delivery, little concern for costs, poor quality of care, indifference to patient satisfaction, and limited or no patient choice. At the same time, general macroeconomic problems in the 1980s, in part due to a large debt owed to the western banks, began to put severe strains on the national budget. The health budget also suffered, and the rate of growth of per capita government expenditure slowed considerably. Government health expenditure in Poland fell from around 5.7% of GDP[1] in 1983 (Tymowska, 1987), to 3.89% in 1988. After a recovery in 1992 when health expenditure rose to 5.26% of GDP (Chellaraj et al, 1996), health expenditure fell again in 1993 to 4.87% of GDP (Chellaraj et al, 1996).

Reductions in real level of public spending for health in the last decade have had an adverse effect on quality and efficiency in the public sector. Reorganization and restructuring of the public sector has been very slow, and the public health care system continues to be characterized by overstaffing, misallocation of resources, underutilization of capacity in some areas and undersupply in others, and shortage of drugs and medical supplies. Patients are dissatisfied with quality of care, restrictions in access and choice of provider, and the increasing practice of unofficial payments required of them. Medical personnel complain of low wages, and many look for alternate employment to complement government salaries. Private practice is common. Supply of physicians in many areas is very insufficient, while other areas have a surplus. Motivation among medical personnel is poor, in part because of the long hours required of some of them and in part because there are no incentives to work more than just a minimum.

[1] In Poland, as in many other socialist countries, the calculation of national income before 1991 was based on the "material product system" that accounted only for the productive sphere in economic activities, to the exclusion of non-material outcomes. Thus, services such as health care, culture, and education are not accounted for in computation of national income. This has the effect of underestimating national income, and making international comparisons difficult. After 1991, however, non-material outcomes were also counted.

Another source of dissatisfaction with the current system is the conflict between the Physician's Chamber and trade unions on the one hand, and the state administration on the other. Disputes arise over salary levels, hours of work, working conditions, promotion avenues, etc. There are conflicts also between physicians and the directors of hospitals, over fund availability, equipment maintenance, medical supplies, drugs, etc.

In January, 1990, the government in Poland introduced a package of reforms to change the centrally planned communist system into a free market economy. All prices were permitted to move freely, money supply was tightened, the currency devalued, and private entrepreneurship encouraged. At the same time, a number of health system reforms were introduced in finance, organization and management of health services. The general direction of these reforms has been toward establishment of new health care production units (1991 Act), new provider payment mechanisms (1993 Act), greater autonomy to hospitals, decentralization and privatization of public sector in health, introduction of family-oriented general practice, and recognition of patient choice. Also on the anvil is the introduction of health insurance, an issue that has been debated intermittently in the last five years.

It is generally agreed by decision makers in Poland that the introduction of market-oriented reforms will result in many improvements, even though there may be some adverse consequences for equity in the short run. The introduction of performance-based financial incentives along with greater autonomy is expected to contribute to increased effectiveness, efficiency, patient choice, competition, quality of care and patient satisfaction in the long run.

It was this kind of thinking that influenced the decision-makers in Suwalki and led to the introduction of physician contracting. A new law enabling the public sector to contract with private medical staff and pay them from state resources had already been passed in 1991. Another law that specifically detailed provisions for contracts was passed in 1993. Drawing on these enabling legislation, Suwalki introduced a system of contracts with physicians and other medical personnel that stipulated the nature and quantity of services, compensation package, provisions for maintaining quality standards, regulation, and duration of the agreement. Physicians and other medical personnel were offered many new incentives to accept contracts, all of which ultimately implied higher remuneration, greater autonomy, and more job satisfaction for them.

In the absence of increased budgetary allocations from the Ministry of Health, the strain on the health budget from the higher earnings of physicians under contract had to be offset by savings elsewhere. The decision-makers in Suwalki expected the savings to come from two sources. First, savings were expected under the salary head of account, since the support staff of the contract physician would become redundant. And second, savings were expected as a result of increased efficiency that was expected to follow introduction of contracts. The limited experience so far indicates that savings in fact have been realized through precisely these means; it is, however, not very obvious if this trend can be sustained for long.

This report is organized as follows. Legislation supporting contracting is briefly described in section 2. Section 3 lists the number and types of medical personnel under contract in Suwalki. The basic rationale employed in designing the various payment mechanisms is discussed in section 4. Details of the various payment systems are presented in section 5. Monitoring and quality control in contracts is described in section 6. Section 7 analyzes the flow of funds for contract payments, and identifies and describes the two main sources of financial savings. The report ends with concluding remarks on the impact of contracts in section 8.

2. Legislation supporting contracting[2]

One important landmark in the process of transformation of the health sector in Poland was the promulgation of the Health Care Units Act of August 1991, which laid the theoretical and institutional basis and foundation for different experiments in financing and management of health care, including issues related to provider payments. Article 1 of the Act defines a health care unit as "an organizationally separate team of persons and combination of assets established and maintained specifically for the purpose of providing medical services, preventing diseases and injuries, promoting health issues, and, if possible, also training medical professionals." (Act, 1991). This definition is rather comprehensive, and includes hospitals and other units, outpatient clinics, emergency aid units, diagnostic laboratories, dental centers, and rehabilitation centers. Units established and maintained by public funds, whether from the state administration, voivod or the gminas, are classified as public units. Others, funded by churches and religious organizations, insurance companies, businesses, etc. are classified as non-public units.

A public health care unit is defined as being "independent" if it is financially independent and is established as a separate legal and economic unit. The basic features of independent units are (a) the unit has a legal status; (b) the unit owns and manages its assets; (c) the unit independently secures funding for its operations; (d) the unit can raise funds through bank loans; (e) the unit conducts business activity, and is subject to the commercial code, even though its activities are not for profit; (f) the unit follows an independent employment policy and sets its own wages and remuneration levels.

Ordinance of 1993

The Ministry of Health and Social Welfare issued an ordinance on August 5, 1993, under Article 35 of the Health Care Institutions Act of 1991, that regulates the general conditions and procedures for contracting of health services. Article 35(1) of the Act of 1991 extends the provisions of the Act to "physicians with private practices and other medical professionals who, on the basis of an agreement with the central government administrative agency, the voivod, the responsible agency of the commune or union of communes (metropolitan union), have bound themselves to carry out the responsibilities set out in Article 33(1) [i.e., provision of health services], and make use of public funds to provide them." Article 35(2) empowers the "Minister of Health and Social Welfare, in consultation with the Minister of Finance, to set out in an ordinance the general conditions and procedures for concluding and canceling contracts [for the provision of health services to insured individuals and other entitled persons] mentioned by the central government administrative agencies, the voivods and agencies of the communes, with regard to contracted tasks and the ways of fixing remuneration for services provided, and for settling the accounts."

The Ministry of Health and Social Welfare ordinance of 1993 empowers a state administration unit, voivod, gmina or a union of gminas (or "employers") to enter into contracts with physicians, dentists, and other members of the medical profession who have the right to practice medicine and have appropriate "premises, equipment and apparatus" (section 3).

The first step in the process of contracting is invitation for tenders through public announcements in regional newspapers, notice boards in the employer's premises and in appropriate regional chambers of medical professions (section 10). The announcement specifies, inter alia, the types of health services required and the number of persons entitled to such services (section 13). Physicians participating in the tender process are required to give a description of their premises, equipment and apparatus, and the number and professional qualifications of persons who will provide the services (section 14). Tenders

[2] The description of the supporting legislation in this section is similar to the description used in Windak and Chawla (1997): "Physician Contracting in Krakow", DDM, Harvard School of Public Health, Boston.

submitted are evaluated by a tender committee that has at least three members (section 15), that decides the tender within one month of date of submission (section 16).

Each tender consists of an 'open' and a 'closed' part. In the 'open' part the tender committee, in the presence of the bidders, examines the legitimacy of the tender process, opens all bids, determines the validity of tenders and records explanations and declarations made by the tenderers (section 19). In the 'closed' part, the tender committee selects the best offer, if any (section 20). All decisions are recorded in writing (section 21).

Once the bid is accepted, the employer and the bidder enter into a contract that, inter alia, designates the parties to the contract, and specifies both, the types and number of health services, as well as the persons entitled to such services. The contract, valid for a period not exceeding one year (section 3), also specifies the patient registration procedures, location of services, medical equipment and apparatus, and the number of medical personnel and auxiliary staff who will provide the services (section 24). Compensation by the employer to the contractor is made according to the provisions of the contract (section 28) and can be determined on any basis, including number of persons under care, quality and quantity of health services provided, and working time, and can include provision for deprecation, drugs, diagnostic tests, rent of premises, transportation and communication (section 29).

3. Number and Type of Physicians Under Contract in Suwalki

There are 867 physicians and dentists in Suwalki voivodship, of whom 246 (28.4%) are under contract with the voivod, zoz or the gmina as of December 31, 1996. The first contracts were signed in 1993, when 6 dentists resigned from regular employment with the zoz and entered into a contract with Suwalki voivod. The number of physicians and other medical personnel who left regular zoz/voivod employment and signed contracts with the same or other zoz/voivod increased to 34 in 1994 and 103 in 1995. It is useful to note that contract personnel are not deemed to be state employees, even though they are paid from the state exchequer.

Table 1: Physicians and Technicians Under Contract in Suwalki, 1994-1996

Type	***Number Under Contract***		
	1994	***1995***	***1996***
Dentist	15	31	36
Dental Surgery	0	1	2
Dental Technician	5	41	48
Orthodontist	0	0	1
Emergency Care	10	14	47
General Practitioner	0	4	27
Night Shift Duty	0	0	32
Specialists	2	5	36
Diagnostics	2	7	11
Nurses	0	0	6
Total	**34**	**103**	**246**

4. Payment Systems: Underlying Considerations

All contracts with medical and paramedical personnel in Suwalki can be conveniently classified according to the system of compensation laid down in the agreement. The five compensation systems currently in use in Suwalki are:

1. Fee per visit
2. Fee per procedure
3. Mixed system (capitation-cum-fee per procedure)
4. Fee per day
5. Capitation

Three general considerations guide each of these payment mechanisms, which are best understood in terms of "constraints". These are participation constraint, budget constraint, and sustainability constraint. We discuss these in turn.

A. Participation Constraint

To expect a physician or other medical personnel (henceforth called the "agent") to accept a contract, the expected return for the agent must be greater than or equal to the compensation in the existing employment situation. In the present system, an agent's direct compensation has three components: salary (S), social security contributions (SS) and bonus (B). The salary component is fixed and known with certainty. Social security contributions amount to 48% of the salary amount. The bonus amount can vary, though the minimum is half-month's pay. In addition, the agent may augment his income by accepting gratuitous payments, X, (also known as envelope money) and by working additional hours in his own private practice, P.

In comparison, an agent under contract does not get a regular salary, or social security contributions or bonuses. Typically, additional earnings from envelope payments are also very restricted. However, the agent under contract can continue to have his own private practice in addition to the contract obligations.

The participation constraint can thus be written as follows:

"An agent will participate in the contract if his expected earnings from the contract are at least as much as his expected earnings from a regular employment. In other words, the following relation must hold:

$$E(Y_C) \geq S_g + SS_g + B_g + X_g + P_g - P_C$$

where $E(Y_C)$ is expected income under contract, and the subscripts C and g represent source of earning, contract or government, respectively."

B. Budget Constraint

The health budget of the voivod is largely determined historically, and is based on the previous year's budget with some adjustment for inflation. A large proportion of this budget, between 55% and 65%, is allocated to salaries of health personnel, both medical and non-medical. Individual salaries fall into only few distinct categories, that of physicians, paramedical staff, and non-medical staff. Within each category, individual salaries are largely a function of seniority, and some additional income is given to those persons who have administrative responsibilities.

In the absence of additional sources of funds, the amount that a voivod can spend on personnel, including those under contract, cannot exceed the total salary budget. While some adjustments between the salary head of account and other heads of account is possible, these are not likely to contribute much more to the salary account. The budget, or the feasibility, constraint of the voivod can thus be stated as follows:

"Total funds available for compensation of all personnel, including those under contract, cannot exceed the expected budgetary allocation on account of salaries, which is likely to be equal to the previous year's allocation adjusted for inflation. In other words,

$$Y_{Ct} + GS_{gt} \leq (1+a)B_{S,t-1}$$

where Y_C is payment to contract personnel, GS_g stands for gross salary of continuing government personnel, a is the inflation rate, and B_S is the salary budget. Present and previous years are denoted by t and t-1 respectively."

C. Sustainability Constraint

The objectives of contracting include improvements in quality and quantity of physician services and improvements in patient satisfaction, without any reductions in access and equity, or any overall increases in costs of care. A contract would be sustainable only if the above objectives are met.

The sustainability constraint can be quantified in various ways: number of patients, number of procedures, quality-quantity mix, number of hours, targeted population, etc. Different contracts in Suwalki choose different ways of describing this condition. In general, the sustainability constraint can be stated as follows:

"For a contract to be sustainable, the contracting agent must produce and deliver at least as much as is decided either normatively or by negotiation."

These three constraints can be presented graphically, as in figure 1. The reservation wages of a typical physician are represented by the curve PP. PP includes a fixed component (salaries) and a variable component (envelope money) that is expected to increase with the number of patients. The curve PP is thus upward sloping, and for simplicity, is assumed to be linear.

Two different per-physician budget constraints are shown in figure 1, represented by the horizontal lines BB and B'B' respectively. As shown, B'B' represents a higher level of payment that the voivod can afford to make to the contracted physician.

Finally, the sustainability constraint is represented by the vertical line MM, and as drawn, represents the minimum number of patients the physicians must examine to make the contract sustainable.

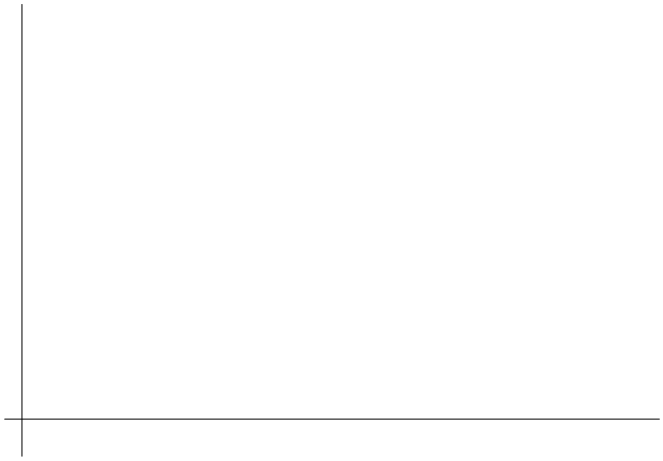

Figure 1

In a situation in which all three constraints are binding, the decision-space is restricted to be on or to the right of MM, on or above PP, and on or below BB. Thus, if BB is the operating budget constraint, no contracts are signed, and if B'B' is the operating budget constraint, contracts are signed in the shaded triangle space, being closer to PP or B'B' depending on the bargaining power of the physician or the voivod, respectively.

5. Payment Systems: Specific Methods

1. Fee-per-visit

As of December 31, 1996, there are 83 physicians under contract who are paid on the basis of fee-per-visit (table 2).

Table 2: Physicians and Technicians Under Fee-per-visit Contract in Suwalki, 1996

Type	*Number Under Contract*
Emergency Care	47
Specialist	36
Total	83

The fee-per-visit is a negotiated rate between the voivod and the physician, and covers all procedures that the physician may carry out during the visit. A "point" system is used as a basis for negotiation, and each specialist visit is given specific points. In addition, factors such as location of practice, distance travelled to meet the patient and the number of medical practitioners in the area are also considered while arriving at a rate for fee-per-visit. The physician is responsible for all costs of the visit, including space rental, equipment, emergency drugs, other medical and non-medical supplies, paramedical staff, etc.

There are often great variations in both, fee-per-visit and the number of visits among physicians in the same specialization. For example, in Wydminy an oculist under contract in 1995 earned zl 4.02 per visit, and had 2,020 visits, for a gross income of zl 8,120.40. At the same time, a contract oculist in Banie Mazurskie, also in 1995, earned zl 8.0 per visit, and had 1,283 visits, for a gross income of zl 10,264. Another oculist under contract, in the Goldap zoz in the first quarter of 1996, agreed to a rate of zl 6 per visit, which compares favorably with zl 8.6, the average cost per visit for an oculist not under contract in the same zoz in 1995. In the first quarter of 1996, the contract oculist had 1,651 visits, for a total income for the period of zl 10,257.

There are also wide variations in fee per visit and number of visits between physicians of different specializations. For example, the average fee per visit and number of visits for different specialists in Mikolajki for the first quarter of 1996 was as under (table 3, all figures in zl):

Table 3: Fee-per-visit and Total Income of Physicians Under Contract in Mikolajki, 1996

Type	*Fee per Visit*	*Number of Visits*	*Total Income*
Orthopedics	13.0	224	2912.0
Laryngologist	4.0	322	1288.0
Gynecologist	5.6	359	2010.4
Dermatology	3.5	269	941.5

There is no limit to the total income that the physician can earn under this system. However, with the exception of emergency care, patients visiting contract physicians under this system need to have a referral from a general practitioner.

2. Fee-per-procedure

As of July 1, 1996, there are 92 contract physicians and technicians who are paid on the basis of fee-per-procedure (table 4).

Table 4: Physicians and Technicians Under fee-per-procedure Contract in Suwalki, 1996

Type	*Number Under Contract*
General Dentists	30
Dental Surgeons	2
Dental Technicians	48
Orthodontists	1
Diagnostics Staff	11

Payment for each procedure is calculated on the basis of "points" allocated to the procedure. Points are computed according to the value of time, materials, equipment and knowledge required for the procedure. In some cases, point-allocation formulas being used elsewhere in the country (for example, points for dental procedures) were used for calculating the number of points per procedure. In most cases, however, point allocation formulas (including for dental procedures) have been developed within Suwalki voivod. One such structure of point values for certain dental procedures, developed in Suwalki, is as follows (table 5):

Table 5: Dental Procedures and Points, Suwalki, 1996

Procedure	*Points*
Extraction	1.0
Filling	1.5
Completion of Dentures	5.0
Repair of Dentures	1.5
Others	0.5

Points are based on completion of each procedure, except for the "others" category, which includes each visit by the patient, even for referrals or certification.

There is a limit to the number of points that can be accumulated, and this limit can vary from place to place. For instance, under dental contracts, accumulation of points for the year 1994-95 ranged between 6,000 and 7,200. Even within a year, there is a ceiling on the number of points that can be accumulated each quarter. However, while the quarterly ceiling may, in some cases, be exceeded with prior permission from the director of the zoz, annual allotment of points cannot be exceeded.

Departmental average costs are used as the basis in computing the zloty value of each point. In the absence of detailed break-down of costs of different procedures, the average cost of a procedure is computed simply by dividing total recurrent costs of a department by the total number of procedures done in the department.

Table 6 - Budget for Four Dentist Outpatient Clinics for 1995 (in '000 zloty)

Personnel Costs		
Paragraph 11	Salary	756
Paragraph 17	Bonuses	48
Paragraph 41	Social Security	362
Paragraph 42	Unemployment Fund	24
	Sub-total	**1180**
Paragraph 28	Delegation	1
Paragraph. 31	Supply	58
Paragraph 33	Pharmaceutical	45
Paragraph 34	Equipment	13
Paragraph 35	Energy (Electricity)	17
Paragraph 36/37	Administration	50
Paragraph 43	Social Fund	24
Paragraph 67	Area Tax	7
	Sub-total	**225**
	Grand Total	**1405**
	Expected Number of Visits	18506

Table 6 contains an example of average cost calculation in dental outpatient clinics. Costs per procedure are calculated using total costs of the department and dividing it by the number of visits. This yields an average cost across all procedures, and forms the basis for allocating a zloty value to a point.

The final zloty value of each point is negotiated with the representatives of physician-specialists signing the contract, and while it may vary across specialities, the point value across physicians within a speciality is the same. Different procedures are allocated different points, depending largely on the severity of the procedure, time spent on the procedure, and equipment and other supplies used.

For instance, the point value for dentistry between 1994 and 1996 was as follows (Table 7):

Table 7: Point Value in Dentistry, Suwalki, 1996

Year	***Point Value (zl)***
1994	4.00
1995	5
1996	6.25

3. Mixed System

The third method of payment of physicians under contract is the mixed system, and as of December 31, 1996, there were 27 physicians, all general practitioners, being paid according to this system. Under this system, physicians and other providers enroll residents of a specified area and receive a fee for each enrollee for a specified time period. In return, physicians under this type of contract provide the full range of primary services for their patients. However, physicians under capitation are not responsible for all costs of providing the full package of treatment, and the zoz bears expenses relating to diagnostic tests, specialist consultations, and ambulatory surgery.

In addition, physicians also receive a small fee for each patient visit, as well as a lumpsum payment for providing inoculation coverage and preventive tests. There are thus three components in the calculation of a physician's income under the mixed system: capitation, fee-per-visit, and use of prophylactics. We discuss these in turn.

(a) Capitation

The capitation formula is based on number of enrollees, age of the enrollee, physician's specialization and physician's seniority. The minimum number of persons that a physician must enroll to qualify to be on such a contract is 1,000. There is no maximum limit. Each enrollee is allotted a point according to a graduated scale (table 8):

Table 8: Points per enrollee, Suwalki, 1996

Number of Enrollees	Points per Enrollee
Up to 2,500	1.0
2,501-3,000	0.2
3,001-3,500	0.1
> 3,500	0

An extra 0.5 points are allotted for each enrollee below 6 years and above 65 years of age. Physicians with extra specialization at step 1 (diploma) and step 2 (advanced degree) get additional 0.025 and 0.05 points per enrollee respectively. An additional 0.01 points per enrollee is given to physicians who have worked for more than 5 years at the facility.

(b) Fee-per-visit

The second component in physician's compensation is fee-per-visit. Points allocated to a visit are scaled according to three 'types' of visits: by the patient to the physician’s practice, home visit by the physician within the town, and home visit by the physician outside of town. These visits are typically worth 0.6 - 0.8 points, 1.2 - 1.6 points, and 2.4 points, respectively. There is no variation in the point value of the visit according to the type of patient or nature of treatment.

(c) Inoculation Coverage

The third component of the reimbursement package is based on inoculation coverage and use of preventive tests of the population. Physicians under this type of contract are required to carry out all age-specific immunizations, screening for breast cancer, monitoring diabetes and blood pressure, and yearly checkups for children under the age of 18. Points are generated according to population coverage (table 9):

Table 9: Points per month for inoculation, Suwalki, 1996

Percentage of Population Receiving Preventive Care	Points per Month
< 50	0
51-60	200
61-70	300
71-80	400
81-90	600
91-100	800

The value of a point is negotiated every year, and in 1996 each point was worth between zl 1.0 and zl 1.5. There is a ceiling on the maximum number of points a physician can generate in one year. In 1995 the ceiling was 35,000, which was increased to 42,800 in 1996.

Example

The following example illustrates the calculation of total reimbursement for a general practitioner in Punsk in zoz Sejney for the fourth quarter of 1995. Population of Punsk is 4,497, of which 4,068 are enrolled with the physician. Of this, 456 persons were under the age of 6 years, and 673 over 65. The negotiated point value per enrollee was 0.5, and value per point was zl 1.0. The physician recorded 1,117 visits in one month, which included 51 home visits in the town area. More than 3,800 enrollees had received age-specific inoculations.

Capitation Component
Special Category Enrollees: 456+673=1129
Points: 1129*0.5*1.5 = 846.75

General Category Enrollees
Points: (2500-1129)*0.5 = 685.5
500*0.2 =100
500*0.1 = 50

Total = 1682.25

Fee-per-Visit Component
Home Visits: 51
Points: 51*1.2 = 61.2
Clinic Visits: 1066
Points: 1066*0.5 = 533

Total = 593

Preventive Medicine Component
Coverage: over 90%
Points: = 800

TOTAL POINTS = 3075.25

ZLOTY VALUE = 3075.25

4. Fee-per-day

This system of payment has been introduced only recently, and as of December 31, 1996, there are 32 physicians on fee-per-day type of contract, all of whom are night shift duty physicians. Physician compensation is a negotiated rate between the voivod/zoz and the physician, and historical average costs are used as the basis for computing fee-per-day. In the absence of detailed break-down of costs of different types and times of physician labor, average cost is computed simply by dividing total recurrent costs of a night shift duty physicians by the number of such physicians.

5. Capitation

Compensation based on pure capitation has also been introduced recently, and as of December 31, 1996, all 6 community nurses on contract are paid according to pure capitation. Besides making independent visits to patients' houses, community nurses work in close cooperation with general practitioners. The capitation formula is based only on number of enrollees. The minimum number of persons that a nurse must enroll to qualify to be on such a contract is 600, while the maximum is 1,200. Nurses get between 1-1.2 zloty per point per month.

6. Monitoring and Quality Control in Contracts

By and large, physician and other medical personnel contracts in Suwalki do not contain explicit and enforceable provisions for monitoring and quality control. All contracts require the physicians and technicians to maintain certain records and make those records available for inspection as and when called for. For instance, the contract with emergency care physicians requires the physicians to maintain a departure chart as is customarily maintained in hospitals. The departure chart along with the first page (yellow) of the RUM is required to be given to the emergency office on completion of the service (clause 18). General practitioners, dermatologists, dentists and radiologists are required to keep all "statistics and medical documentation which conform to the rules in public health care and cost accounting" (clause 4 of the general practitioner contract, clause 6 of the dermatologist contract, clause 17 of the dentists contract, and clause 5 of the radiologist contract). It is, however, not very clear what type of information is expected to be obtained from these records, and to what use it will be put to.

Provisions for quality control are even less explicit and clear. For instance, clause 19 of the emergency care physician contract empowers the principal to check for quality control, but does not specify how this inspection would be carried out or what it entails. The contract with dentists simply states that the physician is "obliged to use standard materials" (clause 4:4), and have business offices and equipment that conform to "the standards in health care system" (clause 20). Similarly, the contracts with dental surgeons and radiologists also require the physician to use equipment that conforms to "standards in health care system" (clause 19 and 24 of dental surgeons contract, clause 24 of radiologist contract). These standards are, however, not specified anywhere. The contract with dermatologists is clearer, and lays down that "sanitary and professional conditions in the office should meet requirements of the regulation of the Ministry of Health and Social Welfare, dated September 9, 1992, as published in the Journal of Law, number 74 of 1993." Further, the annex to the contract lists standards of equipment that have to be met and attested by the inspecting officer.

Some contracts require physicians to attend courses and training sessions for specified minimum periods. For instance, contracts with the general practitioners and dental surgeons require the physician to "supplement his knowledge and skills with a minimum of five days training once a year" (clause 9 of the general practitioner contract, clause 5 of the dental surgeon contract).

All physicians and dentists on contract are required to bear all civil and criminal liability that may arise in the course of any service they provide (clause 11 of the emergency care contract, clause 10 of the dermatologist contract, clause 6 of the dentist contract, clause 7 of the dental surgeon contract, and clause 6 of the dental technician contract). Surprisingly, there is no such clause in the general practitioner contract.

Most contracts have a clause that permit termination of the contract agreement if the physician does not perform his duties as laid down in the contract. In particular, any action by the physician that leads to a reduction in access or in poor quality of treatment is sufficient grounds for termination of the contract (clause 22 of the general practitioner contract, clause 29 of the radiologists contract, clause 25 of the dermatologist contract, and clause 25 of the dentists contract).

When there is a conflict between the payer (zoz/gmina) and the contracted physician or technician, the contracts require the dispute to be referred to a three-person commission which acts as an arbitrator. The commission is composed of one representative from the contracted physician, one from the side of the payer (usually the director of the zoz team), and the third from the voivodship. If the commission fails to arrive at an acceptable solution, the dispute moves on to the Civil Court. When there is a dispute between a patient and the contracted physician, the contracts require the case to be referred to the Physician’s Chamber, which is an independent organization. If no acceptable solution is found, the dispute is brought to the Civil Court.

7. Flow of Funds: Finding Resources for Contract Payments

The total budget for the health sector in the Suwalki voivodship has been increasing in monetary terms over the last 4 years (table 10). The allocation in 1993 was (new) zl 72,337,459 that went up to zl 101,268,066 in 1994, representing an increase of about 40%. The 1995 budget of zl 140,114,553 also represents a rise of about 40% over the previous year, while between 1995 and 1996 budget allocation increased by 17%, to zl 165,472,264. High inflation rates (131% in 1994, 31% in 1995 and 20% in 1996) reduced the real value of this allocation, so that in real terms, budgetary allocation for the health sector fell by 40% in 1994, increased by about 4.7% in 1995, and remained more or less steady in 1996.

By the far the biggest component of the budget is salaries, which accounts for almost 60% of the total health budget. The salary head of account in the budget includes salary, bonus, taxes paid by the employer on behalf of the employee, and social security contributions. Taxes and social security payments account for approximately 33% of gross salary, while bonus amounts to approximately 4% (half month's pay). The break up of various components of the gross salary across the various zozs and hospitals for the year 1996 is given in table 11.

Budget allocation for different expenditures in Suwalki is done according to "paragraphs" or "heads of account". Thus, the salary component comes from paragraph 11, bonus from paragraph 17, taxes from paragraphs 41 and 42, and social security from paragraph 43. In the absence of specific allocations in 1994 and 1995 under the newly created paragraph (number 44) for reimbursement of physicians under contract, funds had to be reallocated from other paragraphs in the budget, the natural candidate for this being the salary component. However, in 1994, only Gizycko zoz reallocated the funds correctly, the other zozs using funds from other paragraphs. There was some improvement in 1995, with 3 zozs moving some funds from the salary component for payment to physicians under contract. It is interesting to note that Gizycko transferred only 18.18% of the required amount from salary head of account, even though in the previous year the zoz had correctly used only the salary head of account to pay physicians under contract. All 11 zozs moved some funds from the salary paragraphs (11,17,41,42,43) to para 44, though the percentage of required funds reallocated varied from approximately 85% in Wgorzewo to 19% in Sejny (table 12).

Table 10 : Health Sector Budget, Suwalki, 1993 to 1996 (Zloty)

Place	*Budget 1993*				*Budget 1994*			
	Total	*Salary +S.S.*	*Investment*	*Others*	*Total*	*Salary +S.S.*	*Investment*	*Others*
ZOZ Augustow	5,731,100	4,075,370	310,000	1,345,730	7,417,700	5,355,606	104,000	1,958,094
ZOZ Elk	7,435,800	5,357,460	70,000	2,008,340	9,973,400	6,943,500	250,000	2,779,900
ZOZ Gizycko	6,542,285	5,276,913	30,000	1,235,372	8,635,300	6,643,700	150,000	1,841,600
ZOZ Goldap	2,957,500	2,511,835	9,600	436,065	4,660,361	3,071,461	50,000	1,538,900
ZOZ Olecko	2,705,900	2,375,245	7,100	323,555	3,516,100	2,954,726	12,100	549,274
ZOZ Pisz	5,355,800	4,021,140	0	1,334,660	7,899,900	5,424,163	290,000	2,185,737
ZOZ Sejny	2,209,100	1,796,260	0	412,840	3,303,200	2,467,200	0	836,000
ZOZ Suwalki	4,332,900	3,861,640	10,000	461,260	6,574,000	4,942,957	60,000	1,571,043
ZOZ Wegorzewo	2,563,500	2,349,290	24,500	189,710	3,826,400	3,008,774	50,000	767,626
Woj Szpital Zespolony	11,718,074	8,685,645	890,500	2,141,929	19,241,716	11,647,509	383,674	7,210,533
Sp. ZOZ Suwalki	1,214,000	738,340	21,500	454,160	1,547,100	1,015,158	0	531,942
Szp. Psych. Wegorzewo	2,132,800	1,581,515	0	551,285	2,820,600	2,157,500	0	663,100
Osr. Rehabilitacji w Suwalki	248,900	82,360	3,500	163,040	680,200	259,300	100,000	320,900
OPITPA Gizycko	290,300	171,680	2,700	115,920	384,900	260,050	0	124,850
ORU DOREN	151,300	70,180	0	81,120	215,200	108,800	0	106,400
WKTS Suwalki	2,627,100	2,034,350	59,300	533,450	3,794,300	2,556,396	420,000	817,904
Woj. Zesp. Opieki Paliatywnej				0				0
Wydzial Zdrowia	13,806,447	0	2,928,947	10,877,500	15,755,389	23,963	3,322,490	12,408,936
razem jednostki	72,022,806	44,989,223	4,367,647	22,665,936	100,245,766	58,840,763	5,192,264	36,212,739
Zadania Powierzone gminom	314,653	104,255	67,653	142,745	1,022,300	180,602	0	841,698
Total	**72,337,459**	**45,093,478**	**4,435,300**	**22,808,066**	**101,268,066**	**59,021,365**	**5,192,264**	**37,054,437**

Table 10 (continued) : Health Sector Budget, Suwalki, 1993 to 1996 (Zloty)

Place	*Budget 1995*				*Budget 1996*			
	Total	*Salary +S.S.*	*Investment*	*Others*	*Total*	*Salary +S.S.*	*Investment*	*Others*
ZOZ Augustow	7,975,078	6,636,406	476,000	862,672	9,840,329	8,589,369	402,000	848,960
ZOZ Elk	12,132,170	8,833,074	0	3,299,096	12,973,708	10,741,630	53,208	2,178,870
ZOZ Gizycko	9,439,773	7,745,533	444,879	3,299,096	9,392,849	8,157,197	271,000	964,652
ZOZ Goldap	4,678,236	3,879,486	100,000	1,249,361	6,534,153	4,633,004	56,000	1,845,149
ZOZ Olecko	4,583,701	3,831,447	43,000	698,750	4,769,047	4,129,700	48,346	591,001
ZOZ Pisz	7,350,655	5,933,227	550,000	709,254	9,808,791	8,009,505	186,208	1,613,078
ZOZ Sejny	4,121,036	3,226,330	0	867,428	5,200,675	4,298,727	0	901,948
ZOZ Suwalki	8,268,707	6,521,084	50,000	894,706	9,492,867	8,079,561	0	1,413,306
ZOZ Wegorzewo	4,765,742	3,779,049	50,000	1,697,623	5,124,802	4,545,879	189,622	399,301
Woj Szpital Zespolony	22,484,316	14,611,539	150,000	963,693	24,291,678	18,694,775	95,205	5,501,698
Sp. ZOZ Suwalki	2,501,089	1,472,120	50,000	7,722,777	3,791,248	2,224,906	0	1,566,342
Szp. Psych. Wegorzewo	3,557,182	2,842,947	0	978,969	3,314,513	3,314,513	0	0
Osr. Rehabilitacji w Sulwalki	886,401	369,965	0	714,235	1,093,200	550,093	0	543,107
OPITPA Gizycko	546,477	335,269	5,000	516,436	579,395	443,818	3,226	132,311
ORU DOREN	268,772	130,867	0	206,208	354,162	191,899	30,000	132,263
WKTS Suwalki	4,945,976	3,222,805	540,000	137,905	6,122,591	4,114,714	1,074,549	933,328
Woj. Zesp. Opieki Paliatywnej				1,183,171	54,000	37,000	0	17,000
Wydzial Zdrowia	32,682,157	849,766	8,496,426	0,23,335,965	38,965,482	2,917,161	13,096,734	22,951,587
razem jednostki	131,187,468	74,220,914	10,955,305	46,001,249	151,713,774	93,673,451	15,506,138	42,533,901
Zadania Powierzone gminom	8,927,085	2,606,544	282,058	6,038,483	13,758,774	3,699	202,230	13,552,845
Total	**140,114,553**	**76,827,458**	**11,237,363**	**52,049,732**	**165,472,264**	**93,677,150**	**15,708,368**	**56,086,746**

Table 11 : Health Sector Budget, Suwalki : Salary Components, 1996

Place	*Gross Salary (GS)*	*Salary*	*% of GS*	*Bonus*	*% of GS*	*Tax*	*% of GS*	*Social Security*	*% of GS*
ZOZ Augustow	7,119,111	4,484,584	63	272,000	4	2,206,289	31	156,238	2
ZOZ Elk	9,442,564	5,948,368	63	363,003	4	2,927,243	31	203,950	2
ZOZ Gizycko	8,216,732	5,533,338	67	322,392	4	2,261,238	28	99,764	1
ZOZ Goldap	4,154,342	2,724,532	66	166,920	4	1,177,350	28	85,540	2
ZOZ Olecko	8,238,591	2,453,660	30	160,550	2	1,383,619	17	86,420	1
ZOZ Pisz	6,361,697	4,019,035	63	243,880	4	1,965,303	31	133,479	2
ZOZ Sejny	3,458,819	2,203,483	64	127,548	4	1,051,788	30	76,000	2
ZOZ Suwalki	6,988,216	4,502,950	64	273,258	4	2,052,008	29	160,000	2
ZOZ Wegorzewo	4,030,986	2,621,254	65	157,235	4	1,183,128	29	69,369	2
WsZ Suwalki	15,713,920	9,857,259	63	611,778	4	4,834,529	31	410,354	3
Sp. Psych. ZOZ Suwalki	1,572,035	1,000,107	64	48,183	3	497,577	32	26,168	2
Szp. Psych. Wegorzewo	3,034,402	1,889,404	62	111,204	4	976,794	32	57,000	2
OPITPA Gizycko	356,470	227,406	64	13,277	4	110,751	31	5,036	1
ORU DOREN	136,157	83,498	61	5,716	4	46,943	34	0	0
Osr. Rehabilitacji w Sulwalach	396,296	253,925	64	12,265	3	123,069	31	7,037	2
WKTS Suwalki	3,455,276	2,180,617	63	127,275	4	1,067,354	31	80,030	2
razem jednostki	79,373,552	50,021,695	63	3,017,946	4	24,677,256	31	1,656,655	2
Total	**79,373,552**	**50,021,695**	**63**	**3,017,946**	**4**	**24,677,256**	**31**	**1,656,655**	**2**

Table 12 : Health Sector Budget, Suwalki : Allocation of Funds for Contracts from the Salary Paragraph, 1994 to 1996

Place	*1994*			*1995*			*1996*		
	money for contracts	*from salary*	*percentage*	*money for contracts*	*from salary*	*percentage*	*money for contracts*	*from salary*	*percentage*
ZOZ Augustow				100,000	0	0	184,800	54,254	29.36
ZOZ Elk				10,083	0	0	62,400	15,501	24.84
ZOZ Gizycko	136,000	136,000	100	220,000	40,000	18.18	348,016	248,016	71.27
ZOZ Goldap	165,000	0	0	266,652	0	0	1,606,000	286,769	17.86
ZOZ Olecko				60,000	0	0	218,000	31,002	14.22
ZOZ Pisz	180,000	0	0	40,000	40,000	100	392,400	85,256	21.73
ZOZ Sejny				12,000	0	0	42,000	7,751	18.45
ZOZ Suwalki				115,639	0	0	398,000	77,505	19.47
ZOZ Wegorzewo				42,030	30	0.07	52,800	45,501	86.18
ZOZ Szp. Zespolony				20,954	0	0	79,200	15,501	19.57
ZOZ Suwalki				56,817	0		64,000	15,501	24.22
Total	**481,000**	**136,000**	**28.27**	**944,175**	**80,030**	**8.48**	**3,447,616**	**852,557**	**24.73**

Thus, only about 25% of payments to physicians and other medical personnel under contract in 1996 was made from transfers from the salary head of account. On enquiry, we found that the balance funds were appropriated from the "supplies" head of account. There seem to be two main reasons for this. First, the zoz Directors face tremendous pressure from the unions against transferring funds from the salary account, since the amount of bonus that employees get depends in large part on the surpluses in the salary head of account. Second, since most of the supplies continue to come from state-owned firms, there seems to be some complacency in running up debts in the expectation that the government would eventually meet the deficit.

Effectively then, while more than 25% of physician salary budget is freed in the transfer of physicians from regular state employment to contracts, a major part of this saving is used up on additional compensation of existing personnel. In addition, the supplies budget is being diverted to physician compensation. Thus, the net financial effect in the short run is that the practice of contracting has led to higher compensation of personnel across the board, a large part of which is being financed by increasing debts.

Physician contracting is still to have a significant impact on the finances of either the Suwalki voivod or any zoz. A sum of zl 3,447,616 only is set aside in the 1996 health budget of various zozs for payment to physicians and other medical personnel on contract. This represents only 2% of the total budgetary allocation of zl 165,472,264 in 1996, and only 6% of salary budget of the zozs for this year (table 13). However, at the rapid pace at which the number of contract physicians is increasing, it is only a matter of time that the voivod and zoz will have to seriously pursue some cost-saving and/or revenue-increasing methods. The natural candidates for increased savings are reduction in work force and decrease in unit costs. We discuss these in turn.

Reduction in Work Force

In the absence of readily available information on employment of physicians in all the zozs and the voivod, we concentrated on trends in employment in Goldap, the zoz that has the maximum number of medical personnel under contract. Of a total of 71 medical personnel in Goldap, 53 (75%) are under contract, representing almost one-fourth of all medical personnel under contract in Suwalki.

Goldap had a total of 91 medical personnel in 1992, including nurses on hospital and emergency duty, and laboratory and X-ray technicians, all in regular employment (table 14). In the five years since, the number of personnel under contract has gone up to 53 and the number of medical personnel in regular employment has gone down to 18. This represents a reduction in work force from 91 to 71, equivalent to a 22% reduction in total employment.

A similar trend is also observed in other zozs, though exact figures are not yet available.

Table 13: Health Sector Budget, Suwalki; Budget Allocation of Funds for Contract, 1996

Place	*Budget*	*Contract*	*Percentage*
ZOZ Augustow	9,840,329	184,800	1.88
ZOZ Elk	12,973,708	62,400	0.48
ZOZ Gizycko	9,392,849	348,016	3.71
ZOZ Goldap	6,534,153	606,000	9.27
ZOZ Olecko	4,769,047	218,000	4.57
ZOZ Pisz	9,808,791	392,400	4.00
ZOZ Sejny	5,200,675	42,000	0.81
ZOZ Suwalki	9,492,867	398,000	4.19
ZOZ Wegorzewo	5,134,802	52,800	1.03
Woj Szpital Zespolony	24,291,678	79,200	0.33
Sp. ZOZ Suwalki	3,791,248	64,000	1.69
Szp. Psych. Wegorzewo	3,314,513		
Osr. Rehabilitacji w Sulwalki	1,093,200		
OPITPA Gizycko	579,395		
ORU DOREN	354,162		
Woj. Zesp. Opieki Paliatywnej	54,000		
WKTS Suwalki	6,122,591		
Razem jednostki	112,748,008	3,447,616	3.06
All Gminas	13,758,774	0	0
Razem Wydz. Zdrowia	38,965,482	0	0
Total	**165,472,264**	**3,447,616**	**2.08**

Table 14: Number of Physicians Under Contract, Goldap, 1992 to 1996

Type of Contract	*1992*			*1993*			*1994*		
	total physicians	*contract physicians*	*percentage*	*total physicians*	*contract physicians*	*percentage*	*total physicians*	*contract physicians*	*percentage*
stomatologist	6	0	0	7	7	100	7	7	100
prosthetic surgery	3	0	0	3	0	0	3	0	0
orthodontic									
dental surgery									
x-ray etc.	7	0	0	7	0	0	7	0	0
labolotamy	16	0	0	17	0	0	17	0	0
general practitioner	12	0	0	12	0	0	12	0	0
oculist	1	0	0	1	0	0	1	0	0
laryngology clinic	1	0	0	1	0	0	1	0	0
neurology clinic									
surgery clinic	4	0	0	4	0	0	4	0	0
gynecology clinic	10	0	0	10	0	0	10	0	0
environment nurse	12	0	0	13	0	0	12	0	0
hospital duty	12	0	0	12	0	0	12	0	0
emergency duty	7	0	0	7	0	0	7	0	0

Table 14 (cont.): Number of Physicians Under Contract, Goldap, 1992 to 1996

Type of Contract	*1995*			*1996 (up to Sept.)*		
	total physicians	*contract physicians*	*percentage*	*total physicians*	*contract physicians*	*percentage*
stomatologist	4	4	100	5	5	100
prosthetic surgery	4	0	0	4	4	100
orthodontic				1	1	100
dental surgery				1	1	100
x-ray etc.	7	5	71	5	5	100
labolotamy	15	6	40	6	6	100
general practitioner	9	0	0	10	8	80
oculist	1	1	100	1	1	100
laryngology clinic	1	0	0	1	1	100
neurology clinic				1	1	100
surgery clinic	4	0	0	1	1	100
gynecology clinic	7	0	0	2	1	50
environment nurse	11	0	0	14	6	43
hospital duty	12	0	0	12	5	42
emergency duty	7	0	0	7	7	100

Decreased Unit Costs

In the absence of detailed information on costs of each procedure, we computed the average cost of a visit in general outpatient, specialist outpatient, dentistry, and emergency care departments for the first quarter of 1996, by dividing the total recurrent expenditure in each department by the number of visits or procedures in that department. Similarly, we computed costs of visits or procedures for physicians under contract (table 15).

Table 15: Costs of visits/procedures, Suwalki, January-March, 1996 (zloty)

Department	*Cost per visit/procedure (employed personnel)*	*Cost per visit/procedure (contract personnel)*
General Outpatient	16	...
Specialist Outpatient	14.9	...
Dentures	150.14	68.82
General Dentistry	17.72	12.07
Dental Surgeon	31.21	20.03
Orthodontist	10.47	...
General Practitioner	12.36	5.51
Nurses	6.03	...
Emergency Care (outside hospital)	76.24	20.57
Emergency Care (within hospital)	29.99	26.25

It is likely that the decrease in unit costs is the result of an increase in the number of visits or procedures per physician. We examined this by looking at the number of personnel under regular employment and under contracts, and the number of visits and procedures performed by them in the dental outpatient clinic in Goldap for the years 1992-96 (table 16, in which a consultation is defined as a recorded visit, not necessarily a treatment or procedure).

Table 16: Consultations per dentist, Goldap, 1992-1996

Year	*Consultations per dentist (regular employment)*	*Consultations per dentist (on contract)*
1992	4562	
1993	5166	7391
1994	3823	7310
1995	4340	9080
1996 (Jan-June)	1578	2943

Thus, even though one outcome of contracting has been a significant reduction in unit costs, the total expenditure of the zoz can increase if there is an increase in the number of visits or procedures. To check this we compare the annual expenditure in the dentistry outpatient clinic in Goldap over the five year period, 1992-96 (table 17).

Table 17: Expenditure in Dentistry Outpatient Clinic in Goldap, 1992-96

Year	***Number of Dentists (regular + contract)***	***Expenditure (Dentistry) (personnel and materials)***	***Percentage of Total Recurrent Expenditure***
1992	6	164,939	5.35
1993	7	312,944	10.58
1994	7	350,382	7.52
1995	4	266,442	5.70
1996(Jan-Jun)	5	141,353	4.32

As the figures in the table indicate, expenditure on dentistry in Goldap rose significantly in 1993 the first year of dentist contracts, to over 10% of the total health budget. However, a downward trend started soon thereafter, and dental expenditure as a percentage of total recurrent expenditure started falling. Probably the fall in 1994 was a result of tighter controls and more experience with contracting. The decrease in costs in 1995 and 1996 is definitely due to a reduction in the work force.

We also compared the income of a dentist in regular employment with the gross earnings of a dentist under contract (table 18). To make the figures comparable, we assume that a dentist under contract spends about 75% of his gross earnings on overheads, including staff salaries, rentals, and supplies.

Table 18: Annual earnings per dentist, Goldap, 1992-1996

Year	***Regular Employment (basic+taxes+bonus+ss)***	***Contract (less 75% overheads)***
1992	5,500-6,500	
1993	6,500-7,500	10,845
1994	7,000-8,000	11,855
1995	9,000-10,000	16,555
1996	11,000-12,000	15,795

As the figures indicate, contract dentists earn significantly more than dentists in regular employment. However, in the absence of any estimates of envelope payments, it is difficult to make a conclusive comparison.

Finally, we compared the unit costs of procedures in the radiology and sonography departments, carried out by contract and regular employees in Goldap (tables 19 and 20). In almost all cases we find a 2-6% saving in unit costs.

Table 19: Cost of Procedures in the Radiology Department, Goldap, 1995

No.	*Type of Investigation*	*No. of points*	*Current Cost in Zl*	*price paid to contract personnel (Zl)*	*Savings Percent*
1	x-ray chest p-a	1.2	8.9	8.6	3.37
2	x-ray chest p-a children up to 6 years	1.2	8.9	8.6	3.37
3	x-ray chest lateralis	1.5	11.1	10.8	2.70
4	x-ray chest with barium (special pigment)	2.4	17.8	17.3	2.81
5	x-ray chest with barium children up to 6 years	2.4	17.8	17.3	2.81
6	x-ray esophagus	2.7	20	19.4	3.00
7	x-ray stomach and duodenum	2.7	20	19.4	3.00
8	x-ray small intestine / bowel	3	22.2	21.6	2.70
9	x-ray large intestine / bowel	6	44.4	43.2	2.70
10	review film of abdominal cavity	2.4	17.8	17.3	2.81
11	angiography	2.4	17.8	17.3	2.81
12	urography	6	44.4	43.2	2.70
13	x-ray cranium p-a, lateralis	2	14.4	14.4	0
14	spot film Turkish saddle	1.2	8.9	8.6	3.37
15	x-ray eye socket	1.2	8.9	8.6	3.37
16	x-ray sinus of nose	1.2	8.9	8.6	3.37
17	x-ray lower jaw	1.2	8.9	8.6	3.37
18	x-ray joint of lower jaw	3.4	25	24.5	2
19	x-ray zygomatic arch	1.2	8.9	8.6	3.37
20	x-ray nose bone	1.2	8.9	8.6	3.37
21	x-ray canal optic nerve	3.4	25.1	24.5	2.39
22	x-ray cars- 1 projection	1.7	12.6	12.2	3.17
23	x-ray tooth	0.6	4.4	4.3	2.27
24	x-ray salivary gland - 1 projection	1.2	8.9	8.6	3.37
25	x-ray cervical spine p-a lateralis	3	22.2	21.6	2.70

Table 19 (continued): Cost of Procedures in the Radiology Department, Goldap, 1995

No.	*Type of Investigation*	*No. of points*	*Current Cost in Zl*	*price (Zl) paid to contract personnel*	*Savings Percent*
26	x-ray thoracic spine p-a lateralis	3	22.2	21.6	2.70
27	x-ray spine L-S p-a, lateralis	3	22.2	21.6	2.70
28	x-ray lateral and axis - 1 projection	1.2	8.9	8.6	3.37
29	slanting film of spine - 1 projection	1.5	11.1	10.8	2.70
30	x-ray caudal bone - 1 projection	1.2	8.9	8.6	3.37
31	x-ray pelvis minor	1.2	8.9	8.6	3.37
32	x-ray sacroiliatis articulation	1.5	11.1	10.8	2.70
33	x-ray hip joint	1.5	11.1	10.8	2.70
34	x-ray hip joint children up to 14 years	1.5	11.1	10.8	2.70
35	x-ray ribs	1.2	8.9	8.6	3.37
36	x-ray sternum	2	14.8	14.4	2.70
37	x-ray clavicum	1.2	8.9	8.6	3.37
38	x-ray sternoclavicular joint	1.2	8.9	8.6	3.37
39	x-ray shoulder joint	1.2	8.9	8.6	3.37
40	x-ray humerus bone	2	14.8	14.4	2.70
41	x-ray elbow joint	1.2	8.9	8.6	3.37
42	x-ray forearm	1.2	8.9	8.6	3.37
43	x-ray wrist	1.2	8.9	8.6	3.37
44	x-ray foot or hand	1.2	8.9	8.6	3.37
45	x-ray cranial basis	1.5	11.1	10.8	2.70
46	x-ray fingers	1.2	8.9	8.6	3.37
47	x-ray scapula	1.2	8.9	8.6	3.37
48	x-ray femur bone	2	14.8	14.4	2.70
49	x-ray knee	2	14.8	14.4	2.70
50	x-ray lower leg bone	1.2	8.9	8.6	3.37

Table 19 (continued): Cost of Procedures in the Radiology Department, Goldap, 1995

No.	*Type of Investigation*	*No. of points*	*Current Cost in Zl*	*price (Zl) paid to contract personnel*	*Savings Percent*
51	x-ray ankle joint	1.2	8.9	8.6	3.37
52	x-ray calcaneum bone	1.2	8.9	8.6	3.37
53	tomography longitudinal lungs - 1 projection	2	14.8	14.4	2.70
54	tomography longitudinal larynx - 1 projection	2	14.8	14.4	2.70
55	photofluorogram lungs	0.5	4.4	4.3	2.27
56	extra spot films - format 30 and up	1.5	11.1	10.8	2.70
57	extra spot films - format up to 30	1.2	8.9	8.6	3.37
58	radioculography	10	74	72	2.70
59	soda insertion to duodenum	3	22.2	21.6	2.70
60	x-ray on an operating suite and next to the bed	1.5	11.1	10.8	2.70
61	chest examination	2	14.8	14.4	2.70
62	cystography	2.4	17.8	17.4	2.24
63	hystero-salpingography	3	22.2	21.6	2.70
64	fistulography	3	22.2	21.6	2.70
65	giving contrast in urology	1.5		10.8	0

* X-rays on holidays and after office hours costs 50% more.

**5 year record storing costs 0.30 zl per year.

Table 20: Cost of Ultrasonography Procedures, Goldap, 1995

No.	*Type of Investigation*	*No. of points*	*Current Cost in zl*	*price paid to contract personnel (zl)*	*Savings Percent*
1	USG abdominal cavity	13.6	9.50	9.10	4.21
2	USG fetus and placenta	13.6	9.50	9.10	4.21
3	USG pelvis minor	9.4	6.60	6.20	6.06
4	USG thyroid gland	9.4	6.60	6.20	6.06
5	USG bladder and prostrate	9.4	6.60	6.20	6.06
6	USG nucleus	9.4	6.60	6.20	6.06
7	1 picture from video printer	2.0	-	1.30	-

* X-rays on holidays and after office hours costs 50% more.

8. Conclusion

Contracting has resulted in many gains for the payers, patients as well medical personnel. Probably the biggest benefit for the payer has been the certainty of expenditure under the contracting system. With most zozs ending each fiscal year with substantial debts, the no-debt contracts offer a very desirable alternative. Moreover, the no-debt nature of contracts makes planning and financial management easier and more meaningful.

Contracts also appear to offer a direct financial saving. Unit costs of almost all procedures and visits carried out by contract personnel are lower than the costs of similar procedures done by regular staff. Physicians under contract bear all costs of all procedures, and thus have an incentive to keep costs down. A decrease in costs could come about as a result of better and more cost-efficient management and organization, and cost-effective treatment, or through the process of cream-skimming (treating only low-cost patients), skimping (providing less than complete treatment) and dumping (transferring high-cost patients to the public facilities). We have no information at this stage regarding these aspects, and it may well be too early to judge which direction contracting in Suwalki is taking. In any case, overall financial saving may not come about if some of the gain in unit costs is offset by increase in number of procedures and visits. Early evidence points toward this direction, though no conclusive assessment of financial savings can be made just now.

Probably the biggest benefit for the patient is the increase in access and availability of health care providers. There has been a general increase in utilization of services provided by contract personnel, especially by dentists, dental technicians, and general practitioners. For example, the average number of dentures prepared per month in 1995 by technicians in regular employment was 12, while technicians under contract prepared 26 dentures per month. Similarly, while dentists under regular employment recorded 307 patient visits per month on average, contracted dentists recorded over 400 visits. Likewise, while employed general practitioners made 38 home visits a month, general practitioners on contract made 311 home visits. As a result, waiting time in general has come down, and patients get faster services.

Physicians and other medical personnel under contract have recorded higher gross, and most probably net, earnings as compared to physicians in regular employment. In the absence of detailed cost estimates of practices of contract personnel, it is difficult to make a conclusive statement about net earnings; however, the fact that so many more personnel are keen to enter into contracts and give up their regular employment indicates that the overall payoffs in contract employment must be higher than regular state employment.